

AMENDMENTS TO THE DRAWINGS:

Replacement drawings are submitted for Figures 1, 2, 11,  
12 and 13.

REMARKS

The application has been amended to place the application in condition for allowance at the time of the next Official Action.

The specification is amended to include a new title that is believed indicative of the invention as claimed.

The specification is further amended to address the informalities noted on page 3 of the Official Action.

Replacement drawings are submitted for Figures 1, 2 and 11 through 13. In Figures 1 and 2, a voltage source is added as recited in claims 22 and 30. Figures 11 through 13 are labeled prior art consistent with the disclosure on page 2, line 24 through page 4, line 6.

In addition, reference numeral 43 has been deleted in the first instance in the specification to address the drawing objection as two different reference characters 43 designating two different elements.

The above changes are the only changes and are believed sufficient to address the drawing objections noted in the Official Action and are believed not to introduce new matter.

Claims 17-34 are pending in the application. Claim 23 is amended to clarify that the recitation of "at least two" refers to at least two of the splitting device, the photoelectric conversion device and the opening and closing device being disposed on a single planar optical circuit to address the claim objection noted on page 4 of the Official Action.

Claims 17, 20, 24, 25, 28, 32 and 34 were rejected under 35 USC 102(e) as being anticipated by TAKEUCHI 7,049,574. That rejection is respectfully traversed.

Claim 17 is amended and recites that an opening and closing device closes an optical transmission path by receiving the electrical signal as a drive voltage so that the output light is cut off when the input light exceeds a threshold. See at least page 14, lines 12-25.

TAKEUCHI discloses various embodiments of a gate control device 13. For example, the first embodiment operates when only one photon is recognized by the pulse light discriminator 12. Embodiment 6 of TAKEUCHI uses a logic zero or logic one also based on a single photon.

TAKEUCHI does not suggest that the output light is cut off when the input light exceeds a threshold. Thus, TAKEUCHI does not anticipate claim 17 or the claims that depend therefrom.

Independent claim 25 recites a transmission and photoelectric conversion device that transmits an optical signal and converts a part of the input signal into an electrical signal.

TAKEUCHI does not disclose such a device. Rather, TAKEUCHI discloses two devices, one that converts the light and one that transmits the light. As TAKEUCHI does not disclose a device that performs both functions of transmitting an input signal light and converting part of the input signal light into

an electrical signal, TAKEUCHI does not anticipate claim 25 and the claims that depend therefrom.

Independent claim 34 also recites a transmission and photoelectric conversion device for transmitting an input signal and converting part of the input signal into an electric signal. TAKEUCHI does not disclose such a device and rather, uses two devices to perform the two different functions of transmitting an input signal and converting part of an input signal into an electric signal.

Claims 18, 22, 23, 26, 30, 31 and 33 were rejected under 35 USC 103(a) as being unpatentable over TAKEUCHI. This rejection is respectfully traversed.

Claims 18, 22 and 23 depend from claim 17 and claims 26, 30, 31 and 33 depend from claim 25 and further define the invention and are believed to define over TAKEUCHI at least for depending from an allowable independent claim.

Claims 19 and 27 were rejected under 35 USC 103(a) as being unpatentable over TAKEUCHI in view of NEWMAN 5,086,329. That rejection is respectfully traversed.

NEWMAN is only cited with respect to the features of dependent claims 19 and 27 and does not overcome the shortcomings of TAKEUCHI set forth above with respect to claims 17 and 25. Since claims 19 and 27 depend from claim 17 and 25, respectively, and further define the invention, claims 19 and 27 are believed patentable at least for depending from an allowable independent claim.

Claims 21 and 29 were rejected under 35 USC 103(a) as being unpatentable over TAKEUCHI in view of PEARSON 7,148,469. That rejection is respectfully traversed.

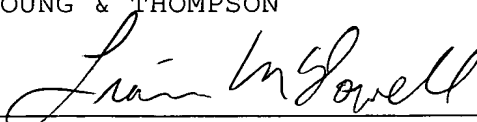
PEARSON does not overcome the shortcomings of TAKEUCHI set forth above with respect to claims 17 and 25. Since claims 21 and 29 depend from claims 17 and 25 respectively and further define the invention, claims 21 and 29 are believed patentable at least for depending from an allowable independent claim.

In view of the present amendment and the foregoing Remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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**APPENDIX:**

The Appendix includes the following item(s):

- ☐ - a terminal disclaimer
- ☐ - a 37 CFR 1.132 Declaration
- ☐ - a new or amended Abstract of the Disclosure
- ☒ - Replacement Sheets for Figures 1, 2, 11, 12 and 13 of the drawings
- ☐ - a Substitute Specification and a marked-up copy of the originally-filed specification
- ☐ - a verified English translation of foreign priority document